SLOVENSKI STANDARD
SIST EN 61248-7:2002

01-september-2002

Transformers and inductors for use in telecommunication and electronic equipment - Part 7: Sectional specification for high-frequency inductors and intermediate frequency (IEC 61248-7:1997)

Transformers and inductors for use in electronic and telecommunication equipment -- Part 7: Sectional specification for high-frequency inductors and intermediate frequency transformers on the basis of the capability approval procedure

Transformatoren und Drosseln für elektronische und nachrichtentechnische Einrichtungen -- Teil 7: Rahmenspezifikation für HF-Drosseln und ZF-Transformatoren auf der Grundlage der Befähigungsanerkennung

Transformateurs et inductances destinés aux équipements électroniques et de télécommunications -- Partie 7: Spécification intermédiaire pour les inductances à haute fréquence et pour les transformateurs à fréquence intermédiaire sur la base de la procédure d'agrément de savoir-faire

Ta slovenski standard je istoveten z: **EN 61248-7:1997**

ICS:

29.180	Transformatorji. Dušilke	Transformers. Reactors

SIST EN 61248-7:2002 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61248-7

August 1997

ICS 29.180

Descriptors: Transformers and inductors, telecommunication equipment, intermediate frequency transformers, high-frequency inductors, sectional specification, capability approval

English version

Transformers and inductors for use in electronic and telecommunication equipment Part 7: Sectional specification for high-frequency inductors and intermediate frequency transformers on the basis of the capability approval procedure (IEC 61248-7:1997)

Transformateurs et inductances destinés aux équipements électroniques et de télécommunications
Partie 7: Spécification intermédiaire pour les inductances à haute fréquence et pour les transformateurs à fréquence intermédiaire sur la base de la procédure d'agrément de savoir-faire
(CEI 61248-7:1997)

Transformatoren und Drosseln für elektronische und nachrichtentechnische Einrichtungen
Teil 7: Rahmenspezifikation für HF-Drosseln und ZF-Transformatoren auf der Grundlage der Befähigungsanerkennung
(IEC 61248-7:1997)

This European Standard was approved by CENELEC on 1997-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 51/441/FDIS, future edition 1 of IEC 61248-7, prepared by IEC TC 51, Magnetic components and ferrite materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61248-7 on 1997-07-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1998-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-04-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61248-7:1997 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC Guide 102	1996	Electronic components - Specification structures for quality assessment (Qualification approval and capability approval)	-	-
IEC QC 001001	1986	Basic rules of the IEC Quality Assessment System for Electronic Components (IECQ)	-	-
A2	1994		-	-
IEC QC 001002	1986	Rules of procedure of the IEC Quality Assessment System for Electronic Components (IECQ)	-	-
A2	1994		-	-
IEC QC 001004		Specifications list	-	-
IEC QC 001005		Register of firms, products and services approved under the IECQ System including ISO 9000	-	-
IEC 60068-2-2	1974	Basic environmental testing procedures Part 2: Tests - Test B: Dry heat	EN 60068-2-2[1]	1993
IEC 60068-2-3	1969	Part 2: Tests - Test Ca: Damp heat, steady state	HD 323.2.3 S2[2]	1987
IEC 60068-2-6	1995	Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6[3]	1995
IEC 60068-2-14	1984	Part 2: Tests - Test N: Change of temperature		
+ A1	1986		HD 323.2.14 S2	1987

1) EN 60068-2-2 includes supplement A:1976 to IEC 60068-2-2.

2) HD 323.2.3 S2 includes A1:1984 to IEC 60068-2-3.

3) EN 60068-2-6 includes the corrigendum March 1995 to IEC 60068-2-6.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-20	1979	Part 2: Tests - Test T: Soldering		
+ A2	1987		HD 323.2.20 S3	1988
IEC 60068-2-21	1983	Part 2: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21 4)	1997
A2	1991		A2	1997
A3	1992		A3	1997
IEC 60068-2-27	1987	Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993
IEC 60068-2-29	1987	Part 2: Tests - Test Eb and guidance: Bump	EN 60068-2-29 5)	1993
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 61007 (mod)	1994	Transformers and inductors for use in electronic and telecommunication equipment - Measuring methods and test procedures	EN 61007	1997
IEC 61248-1	1996	Transformers and inductors for use in electronic and telecommunication equipment Part 1: Generic specification	EN 61248-1	1997
ISO 128	1982	Technical drawings - General principles of presentation	-	-
ISO 129	1985	Technical drawings - Dimensioning - General principles, definitions, methods of execution and special indications	-	-

4) EN 60068-2-21 includes the corrigendum November 1991 and A1:1985 to IEC 60068-2-21.
5) EN 60068-2-29 includes the corrigendum to IEC 60068-2-29.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
61248-7

QC 260600

Première édition
First edition
1997-06

Transformateurs et inductances destinés aux équipements électroniques et de télécommunications –

Partie 7:
Spécification intermédiaire pour les inductances à haute fréquence et pour les transformateurs à fréquence intermédiaire sur la base de la procédure de l'agrément de savoir-faire

Transformers and inductors for use in electronic and telecommunication equipment –

Part 7:
Sectional specification for high-frequency inductors and intermediate frequency transformers on the basis of the capability approval procedure

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE T

Pour prix, voir catalogue en vigueur
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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TRANSFORMERS AND INDUCTORS FOR USE IN ELECTRONIC AND TELECOMMUNICATION EQUIPMENT –

Part 7: Sectional specification for high-frequency inductors and intermediate frequency transformers on the basis of the capability approval procedure

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61248-7 has been prepared by IEC technical committee 51: Magnetic components and ferrite materials.

This standard is intended for use in the IEC Quality Assessment System for Electronic Components (IECQ).

The operation of the IECQ is governed by IEC QC 001001 and IEC QC 001002. Specifications written for components assessed under this scheme, and their use in the scheme, are the subject of IEC Guide 102.

The text of this standard is based on the following documents:

FDIS	Report on voting
51/441/FDIS	51/460/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

The QC number that appears on the front cover of this publication is the specification number in the IECQ system.

Annex A forms an integral part of this standard.

TRANSFORMERS AND INDUCTORS FOR USE IN ELECTRONIC AND TELECOMMUNICATION EQUIPMENT –

Part 7: Sectional specification for high-frequency inductors and intermediate frequency transformers on the basis of the capability approval procedure

1 Scope

This part of IEC 61248 specifies how to prepare detail specifications for high-frequency inductors and intermediate frequency transformers between 10 kHz and 2 GHz for use in electronic and telecommunication equipment to be released under the terms of IEC 61248-1 (QC 260000) capability approval. It includes a blank detail specification (BDS), which shows the format and indicates which tests are considered to be appropriate to this type of component, although the final selection of tests to be included in the inspection schedule is at the discretion of the specification writer. It also lists appropriate ratings and characteristics.

The components covered by this part of IEC 61248 are essentially concerned with high-frequency inductors and intermediate frequency transformers of signals which are mainly used for electronic equipment.

2 Normative references

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of IEC 61248. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 61248 are encouraged to investigate the possibility of applying the most recent editions of the normative documents listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC Guide 102: 1996, *Electronic components – Specification structures for quality assessment (Qualification approval and capability approval)*

IEC QC 001001: 1986, *Basic rules of the IEC Quality Assessment System for Electronic Components(IECQ)*
Amendment 2 (1994)

IEC QC 001002: 1986, *Rules of procedure of the IEC Quality Assessment System for Electronic Components (IECQ)*
Amendment 2 (1994)

IEC QC 001004: *Specifications list*

IEC QC 001005: *Register of firms, products and services approved under the IECQ System, including ISO 9000*

IEC 60068-2-2: 1974, *Environmental testing – Part 2: Tests – Tests B: Dry heat*

IEC 60068-2-3: 1969, *Environmental testing – Part 2: Tests – Test Ca: Damp heat, steady state*

IEC 60068-2-6: 1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-14: 1984, *Environmental testing – Part 2: Tests – Test N: Change of temperature*
Amendment 1 (1986)

IEC 60068-2-20: 1979, *Environmental testing – Part 2: Tests – Test T: Soldering*
Amendment 2 (1987)

IEC 60068-2-21: 1983, *Environmental testing – Part 2: Tests – Test U: Robustness of terminations and integral mounting devices*
Amendment 2 (1991)
Amendment 3 (1992)

IEC 60068-2-27: 1987, *Environmental testing – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60068-2-29: 1987, *Environmental testing – Part 2: Tests – Test Eb and guidance: Bump*

IEC 60410: 1973, *Sampling plans and procedures for inspection by attributes*

IEC 61007: 1994, *Transformers and inductors for use in electronic and telecommunication equipment – Measurement methods and test procedures*

IEC 61248-1: 1996, *Transformers and inductors for use in electronic and telecommunication equipment – Part 1: Generic specification*

ISO 128: 1982, *Technical drawings – General principles of presentation*

ISO 129: 1985, *Technical drawings – Dimensioning – General principles, definitions, method of execution and special indications*

3 Preparation of the detail specification

This standard is intended to be used for the preparation of detail specifications for high-frequency inductors and intermediate frequency transformers released under the terms of the IEC 61248-1 (QC 260000) capability approval procedure.

It is intended for use by the following originators:

a) a customer wishing to procure high-frequency inductors and intermediate frequency transformers that are within the scope of the approved capability of his supplying component manufacturer, e.g. for detail specifications (DS);

b) a capability approved manufacturer of high-frequency inductors and intermediate frequency transformers wishing to prepare specifications for his own products which are within the scope of his capability approval.

NOTES

1 The detail specification should take the form of the BDS shown in clause 5, particularly in respect of the front page format and, in principle, in respect of the presentation of the inspection requirements.

2 Unless otherwise specified, all the tests shown in the BDS, with the exception of the rotating torque, characteristic under pressure, strength of adjusting mechanism, resonance frequency and inductance tests given in annex A, are taken from IEC 61007. Those shown underlined concern operating characteristics of fundamental importance and it is strongly recommended that these are selected by the specification writer for inclusion in the detail specification. The tests shown in plain type are listed for the convenience of the specification writer, and tests should be selected from them according to the particular application of the component.

3 The specification writer may specify tests and sampling levels different from, less than, or additional to those given in the BDS.

3.1 *General*

3.1.1 Where additional tests of a type not defined or invoked in this specification or IEC 61007 are required, these shall be fully specified in the detail specification.

3.1.2 Any tests considered as being destructive shall be so denoted in the test schedule by the addition of the notation '(D)'.

NOTE – The use of this notation is not illustrated in the BDS.

3.1.3 Tests shall be grouped in the schedule according to the level of sampling required and, unless otherwise indicated (see 4.1 b)), in the order of testing required. Where 100 % testing is not required, inspection levels and acceptable quality levels shall be selected from IEC 60410.

3.1.4 The completed detail specification shall be allocated a component identity number and issue status by the originator.

NOTES

1 This number is chosen by the originator (manufacturer or customer) within his own system. It is thus not subject to any external rules or codification.

2 In the case of a manufacturer's detail specification for a standard catalogue item which the manufacturer wishes to be listed in IEC QC 001004, the national committee will allocate an appropriate number from its register.

3.1.5 A number allocated by the component manufacturer shall additionally be included in the detail specification, comprising this specification number, his factory identification code letters and a unique number within his registration system, e.g. QC 260600/PQR/1234.

NOTE – After a detail specification number has been allocated by the manufacturer's reference number, in accordance with 3.1.5, it is to be considered a contractual part of the order. Copies of all such detail specifications are to be retained by the manufacturer's chief inspector.

3.2 *Ratings and characteristics*

3.2.1 *Ratings*

In the case of customer-originated detail specifications, customer and manufacturer agreement shall be obtained on the ratings to be ascribed to the component in the detail specification. These ratings shall not exceed the scope of the manufacturer's capability approval (see also 1.12 of IEC 61248-1).

3.2.2 *Characteristics*

A customer shall prescribe in the detail specification any characteristic required for a component.

3.3 *Outline drawings and winding schematic diagram*

3.3.1 The detail specification shall incorporate a drawing of the transformer showing important features, such as those dimensions affecting interchangeability, restrictions on mounting and marking requirements.

3.3.2 The detail specification shall incorporate a schematic diagram showing all windings, screens, taps and phasings and giving termination identification.

4 Inspection requirements to be listed in the detail specification

4.1 *Conformance inspection*

The detail specification shall incorporate the following notes: